

AMENDMENTS TO THE SPECIFICATION

Please change the title of invention to read as follows:

PIPELINED PROCESSOR WITH MULTI-CYCLE GROUPING
FOR INSTRUCTION DISPATCH

Please replace the paragraph beginning on page 9, line 14 with the following amended paragraph:

In load buffer 104 and store buffer 105, since the pending read or write operation at the head of each queue need not complete within one processor cycle, the state $LB(t+1)$ at time $t+1$ cannot be determined from the immediately previous state $LB(t)$ at time t with certainty. However, since state $LB(t+1)$ can only either remain the same, or reflect the movement of the pipeline by one stage, two possible approaches to determine state $LB(t+1)$ can be used. First, a conservative approach would predict $LB(t+1)$ to be the same as $LB(t)$. Under this approach, when load buffer 104 is full, an instruction is not dispatched until the pipeline in load buffer 106 advances. An incorrect prediction, i.e. a load instruction completes during the processor cycle of time t , this conservative approach leads to a penalty of one processor cycle, since a load instruction could have been dispatched at time $t+1$. Alternatively, a more aggressive approach provides for both outcomes, i.e. load buffer 104 advances one stage, and load buffer 104 remains the same. Under this aggressive approach, grouping logic 109 is ready to dispatch a load instruction, such dispatch to be enabled by a control signal which indicates, at time $t+1$, whether a load instruction has in fact completed. This aggressive approach requires a more complex logic circuit more than the conservative approach.
